## REMARKS

Applicant respectfully requests re-consideration of the application in view of the arguments presented below.

## Summary of Office Action

Claims 1-12 are pending.

Figure 1 was objected to.

Claims 1-2 were rejected under 35 U.S.C. § 102 as being anticipated by U.S. Patent No. 5,619,567 of Apfel ("Apfel").

Claims 3-5 were rejected under 35 U.S.C. § 103 as being unpatentable over Apfel.

Claims 6-12 were rejected under 35 U.S.C. § 103 as being unpatentable over Apfel in view of U.S. Patent No. 5,878,133 of Zhou ("Zhou").

## Response to Objection to the Drawings

A revised Figure 1 accompanies this Amendment. Figure 1 has been amended to include a "Prior Art" legend. Applicant submits that the designation of the SLIC of Figure 1 as "prior art" is not an admission that the particular battery feed functions and apparatus for implementing such battery feed functions illustrated in Figure 2-5 are similarly prior art even though "battery feed" is identified as one of the functions that the SLIC of Figure 1 performs.

Applicant respectfully submits that the objections to the drawings have been overcome.

Response to 35 U.S.C. § 102 rejections

Claims 1,2 were rejected as being anticipated by Apfel. Applicant respectfully submits that Apfel does not teach or disclose a method of of controlling a DC feed from a subscriber loop interface circuit (SLIC), including the steps of: (1) switching from a normal mode DC feed following a first characteristic curve to a modified mode DC feed following a second characteristic curve *when $V_M \leq V_{THRESH1}$, wherein $V_M$ is a subscriber loop voltage;* and (2) switching from the modified mode to the normal mode *when $V_M \geq V_{THRESH2}$, wherein $V_{THRESH1} < V_{THRESH}$.*

The Examiner has stated:

> As per claim 1, Apfel discloses a variable DC feed characteristic for a SLIC that switches from a normal mode 401 to a modified mode 402 DC feed (Fig. 4). The normal mode is switched to the modified mode when Vab is less than or equal to threshold B. The mode is switched back to the normal mode at threshold E.

(08/25/2004 Office Action, p. 2)

Applicant traverses the Examiner's characterization of Apfel at least in part. The Examiner's statement implies that Apfel is using voltage thresholds for switching and that there are two thresholds B, and E. Apfel is not switching between modified and normal modes based on the subscriber loop (or metallic) voltage. To the contrary, Apfel's switching decisions are based sensing loop current ($I_L$). Moreover, Apfel only uses a *single* switching threshold for switching between modes. *There is no teaching or suggestion that Apfel is sensing or using subscriber loop (i.e., metallic) voltage thresholds nor that Apfel is using a plurality of distinct switching thresholds.*

The Examiner is referred to <u>Apfel's</u> Figures 3 and 5. Note that switch 315 (531) is used to couple/decouple current source I3 from contributing to the $I_{SUM}$ from which the loop current is derived. Switch 315 (531), however, is controlled by a hook switch detector (313/533) which indicates on hook/off-hook status by measuring the metallic loop current, $I_L$. *There is no teaching or suggestion of the use of thresholds based on loop voltages, nor that the transition from one mode to the other mode occurs at different thresholds. <u>Apfel</u> uses a single current threshold for switching between normal and modified feed modes as evidenced by B being on the same current value as E in Figure 4.* (<u>Apfel</u>, col. 4, lines 7-39; col. 5, lines 35-50; col. 6, lines 38-49; Figs. 3, 4, 5).

Thus applicant respectfully submits <u>Apfel</u> does not teach or suggest a method including the steps of (1) switching from a normal mode DC feed following a first characteristic curve to a modified mode DC feed following a second characteristic curve *when* $V_M \leq V_{THRESH1}$, *wherein* $V_M$ *is a subscriber loop voltage;* and (2) switching from the modified mode to the normal mode *when* $V_M \geq V_{THRESH2}$, *wherein* $V_{THRESH1} < V_{THRESH2}$.

In contrast, claim 1 includes the language:

> 1. A method of controlling a DC feed from a subscriber loop interface circuit (SLIC), comprising the steps of:
>    *switching from a normal mode DC feed following a first characteristic curve to a modified mode DC feed following a second characteristic curve when* $V_M \leq V_{THRESH1}$, *wherein* $V_M$ *is a subscriber loop voltage;* and
>    *switching from the modified mode to the normal mode when* $V_M \geq V_{THRESH2}$, *wherein* $V_{THRESH1} < V_{THRESH2}$.

(Claim 1)(*emphasis added*)

Applicant notes that the limitation of $V_{THRESH1} < V_{THRESH2}$ ensures that there are at least two thresholds and that $V_{THRESH1} \neq V_{THRESH2}$. Thus switching from the

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normal mode to the modified mode uses a threshold that is distinct from the threshold used from switching from the modified mode back to the normal mode. Moreover, the thresholds represent metallic voltage thresholds rather than a single metallic current ($I_L$) threshold. Applicant thus submits claim 1 is not anticipated by Apfel.

Given that claim 2 depends from claim 1, applicant submits claim 2 is likewise not anticipated by Apfel.

Applicant respectfully submits that the rejections under 35 U.S.C. § 102 have been overcome.

Response to 35 U.S.C. § 103 rejections

Claims 3-5, 6-12 were rejected as being unpatentable in view of Apfel and Zhou. Applicant respectfully submits, however, that claims 3-5 and 6-12 are patentable for the same reasons cited above with respect to the 35 U.S.C. § 102 arguments.

Zhou fails to cure the shortcomings of Apfel. With respect to Zhou, applicant notes that the "switching" is based on a Thus none of the cited references teaches or suggests: (1) switching from a normal mode DC feed following a first characteristic curve to a modified mode DC feed following a second characteristic curve *when $V_M \leq V_{THRESH1}$, wherein $V_M$ is a subscriber loop voltage;* and (2) switching from the modified mode to the normal mode *when $V_M \geq V_{THRESH2}$, wherein $V_{THRESH1} < V_{THRESH2}$.*

In contrast, claim 1 includes the language:

1. A method of controlling a DC feed from a subscriber loop interface circuit (SLIC), comprising the steps of:

 *switching from a normal mode DC feed following a first characteristic curve to a modified mode DC feed following a second characteristic curve when $V_M \leq V_{THRESH1}$, wherein $V_M$ is a subscriber loop voltage; and*

 *switching from the modified mode to the normal mode when $V_M \geq V_{THRESH2}$, wherein $V_{THRESH1} < V_{THRESH2}$.*

(Claim 1)(*emphasis added*)

Claim 6 includes similar language as follows:

6. A subscriber loop interface circuit apparatus comprising:

 control circuitry for controlling a subscriber loop DC feed; and

 a plurality of programmable registers storing values defining a first characteristic curve and a second characteristic curve, *wherein the control circuitry switches from a normal mode DC feed following a first characteristic curve to a modified mode DC feed following a second characteristic curve when $V_M \leq V_{THRESH1}$, wherein $V_M$ is a subscriber loop voltage, wherein the control circuitry switches from the modified mode to the normal mode when $V_M \geq V_{THRESH2}$, wherein $V_{THRESH1} < V_{THRESH2}$.*

(Claim 6)(*emphasis added*)

Thus claims 1 and 6 are patentable in view of the cited references. Given that claims 2-5 depend from claim 1 and claims 7-12 depend from claim 6, applicant respectfully submits that claims 2-5 and 7-12 are likewise patentable over the cited references.

Applicant respectfully submits that the rejections under 35 U.S.C. § 103 have been overcome.

Conclusion

In view of the amendments and arguments presented above, applicant respectfully submits the applicable rejections and objections have been overcome. Accordingly, the Figures and all of claims 1-12 should be found to be in condition for allowance.

If there are any issues that can be resolved by telephone conference, the Examiner is respectfully requested to contact the undersigned at **(512) 858-9910**.

Respectfully submitted,

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